# THERMOCHIMICA ACTA, VOLUME 156 (1989)

## AUTHOR INDEX


Abadir, M.F. 211
Abdel-Ghani, N.T. 69
Acevedo, I.L. 199
Amigo, A. 21

Beck, D.G. 101
Belyaev, S.V. 193
Berbenni, V. 259
Bernalte, A. 231
Błażejowski, J. 27
Bravo, R. 21

Caneiro, A. 275
Charoenrein, S. 373
Chevalier, P.-Y. 383
Chulvi, C. 393
Clarke, J. 359
Cordfunke, E.H.P. 45
Cuevas-Diarte, M.A. 291

de Goede, R. 299
Deshpande, D.A. 1
Deshpande, N.D. 1
Dos Santos, L.C.R. 163
Dumić, M. 61
Dunstan, P.O. 163

Fernandez, J. 21
Franks, F. 247
Fukushima, J. 179

Geanangel, R.A. 239
Gili, P. 231
Gomaa, E.A. 91
Gómez-Estévez, J.L. 85
Gonda, J. 147
Gondová, T. 147
Green, M. 247

Hakvoort, G. 299
Hatley, R.H.M. 247
Hoffman, D.M. 365
House, Jr., J.E. 101

Ihara, Y. 137
Ismail, F.M. 225

Janiak, T. 27
Jha, N.S. 267

Kassem, Y.M. 211
Katz, M. 199
Kolenda, Z. 313, 321
Konings, R.J.M. 45
Kowalski, B. 347
Králik, P. 147
Kume, H. 137

Legido, J.L. 21

Mahdy, A.N. 211
Mallela, S.P. 239
Margheritis, C. 259
Marini, A. 259
Martin-Zarza, P. 231
Masoud, M.S. 225
Massarotti, V. 259
Masuda, Y. 137
Matsuda, T. 137
Matthews, F.M. 365
Mederos, A. 231
Medina, A. 231
Mikhail, S.A. 107

Nagayama, K. 11
Norwisz, J. 313, 321

Ortiz, R.M. 393

Palepu, R. 359
Pasquevich, D.M. 275
Paz Andrade, M.I. 21
Perello, L. 393
Pirilä-Honkanen, P. 129
Politsa, E.N. 193
Prodanović, D. 53, 61
Pruneda, C.O. 365

Reid, D.S. 373
Rekharsky, M.V. 189, 193
Romani, L. 21
Romero, M.A. 393
Ruostesuo, P. 129

Sanahuja, A. 85
Sharma, R.K. 267
Sherif, O.E. 69
Shimizu, T. 179
Sikporenko, Y.B. 193
Sindhwani, S.K. 267
Sinha, S.G. 1
Slanina, Z. 285
Smieszek, Z. 313, 321
Stamatović, M., 53

Takada, T. 11
Tanaka, S. 117

Valenzuela, C. 231
van Miltenburg, J.C. 291
van Rosmalen, G.M. 299

Wendlandt, W.W. 239
Wilson, L.J. 107

Yang, M.L. 157

Zaki, Z. 225
Zhang, Z.Y. 157
Živković, Ž.D. 53, 61

THERMOCHIMICA ACTA, VOLUME 156 (1989)

# SUBJECT INDEX

Alcohol,
DARC analysis of binary mixtures, Excess enthalpies of ketone + alkane and ketone + alcohol systems 21
Alkane,
DARC analysis of binary mixtures. Excess enthalpies of ketone + alkane and ketone + alcohol systems 21
Alkyltheophyllines,
Determination of some thermodynamic characteristics of melting of 8-alkyltheophyllines by the DSC method 147
Aluminium,
Kinetics of the dehydration process of aluminium hydrate formed in the kaolin–aluminium powder system 53
Amide complexes,
Thermochemistry of amide and thioamide complexes of arsenic trihalides 163
Analytical cell,
A simple microcalorimetric analytical cell 189
Aromatic mono-amines,
Thermal features, thermochemistry and kinetics of the thermal dissociation of hexachlorostannates of aromatic mono-amines 27
Arsenic trihalides,
Thermochemistry of amide and thioamide complexes of arsenic trihalides 163
Atomic absorption spectrometer,
Direct combination of thermogravimetric analyser and atomic absorption spectrometer for detection of atomic vapour in thermal analysis 11
Atomic vapour,
Direct combination of thermogravimetric analyser and atomic absorption spectrometer for detection of atomic vapour in thermal analysis 11
Azo-nitroso complexes,
Conducting properties of some new azo-nitroso complexes 225

Barium zirconate,
Enthalpy increments of barium zirconate, $BaZrO_3$, and an assessment of its thermochemical properties 45
Benzyl alcohol,
Thermodynamic and spectroscopic properties of 2-pyrrolidinones. 4. Excess molar volumes of 2-pyrrolidinone + benzyl alcohol, + 1,4-dioxane, + hexamethylphosphortriamide, and *N*-methylbenzenesulphonamide + hexamethylphosphortriamide at 303.15 and 323.15 K 129
Binary mixtures,
DARC analysis of binary mixtures. Excess enthalpies of ketone + alkane and ketone + alcohol systems 21
Solid–liquid equilibria in *para-/meta*-xylene and *para-/ortho*-xylene binary mixtures at atmospheric pressure 299
Bivalent metal complexes
A study of the chelation behaviour of bivalent metal complexes of biologically active 2-hydroxy-1,4-naphthoquinone monoxime (HNQM) in dioxan–water mixtures 267
Butanediamines,
The kinetics of the thermally induced isomerization of some nickel(II) complexes containing butanediamines in a solid phase 137
Butylamine,
Molar excess volumes and partial molar excess volumes of *n*-butylamine with chloroalkanes at different temperatures 199

Calcium,
The kinetics of dehydroxylation and mullitization of zettlitz kaolin in the presence of calcium(II) as an ingredient 61
Carbon,
A thermogravimetric analyser for corrosive atmospheres and its application to the chlorination of $ZrO_2$–C mixtures 275
Carbon monoxide,
Thermogravimetric reduction of lanthanum strontium iron perovskite oxides with carbon monoxide 179
Chelation,
A study of the chelation behaviour of bivalent metal complexes of biologically active 2-hydroxy-1,4-naphthoquinone monoxime (HNQM) in dioxan–water mixtures 267

Chlorination,
A thermogravimetric analyser for corrosive atmospheres and its application to the chlorination of $ZrO_2$–C mixtures 275
Chloroalkanes,
Molar excess volumes and partial molar excess volumes of *n*-butylamine with chloroalkanes at different temperatures 199
Cinoxacin,
Thermal studies on cinoxacin complexes. Part II. Thermal behaviour of some metal complexes of cinoxacin 393
Cobalt,
Thermal studies of Co(II), Ni(II) and Cu(II) complexes with Schiff base derivatives of 1H-indole-3-ethylene-salicylaldimine 231
Compensation law,
Apparent linear relationship, compensation law and others. Part I 313
Apparent linear relationship, compensation law and others. Part II 321
Conductimetric studies,
Potentiometric, conductimetric, spectrometric, thermogravimetric and magnetic studies of lanthanum complexes with some symmetric 1,5-diaryl-3-cyanoformazans 69
Conductivity,
Conducting properties of some new azo-nitroso complexes 225
Copper,
A thermodynamic evaluation of the Cu-Tl system 383
Thermal studies of Co(II), Ni(II) and Cu(II) complexes with Schiff base derivatives of 1H-indole-3-ethylene-salicylaldimine 231
Corrosive atmospheres,
A thermogravimetric analyser for corrosive atmospheres and its application to the chlorination of $ZrO_2$–C mixtures, 275
$CoSO_4 \cdot 7H_2O$,
Dehydration of crystalline $CoSO_4 \cdot 7H_2O$ 1
Crystallinity,
Dynamic mechanical and thermal analysis of crystallinity development in Kel-F 800 and TATB/Kel-F 800 plastic bonded explosives. Part I. Kel-F 800 365
DARC analysis,
DARC analysis of binary mixtures. Excess enthalpies of ketone + alkane and ketone + alcohol systems 21
Data handling,
A novel data acquisition, retention and examination system (DARES) for differential scanning calorimetry 247
Decomposition,
Thermal decomposition of $(CH_3)_2SnX_2$ (X≡F, $SO_3F$, or $SO_3CF_3$) 239
Dehydration,
Dehydration of crystalline $CoSO_4 \cdot 7H_2O$ 1
Kinetics of the dehydration process of aluminium hydrate formed in the kaolin–aluminium powder system 53
Dehydroxylation,
The kinetics of dehydroxylation and mullitization of zettlitz kaolin in the presence of calcium(II) as an ingredient 61
Density,
Viscosities and densities of 2,2,2-trifluoroethanol + water at various temperatures 359
Detection,
Direct combination of thermogravimetric analyser and atomic absorption spectrometer for detection of atomic vapour in thermal analysis 11
Microcalorimetric detection of L-asparagine and L-glutamine in solution using L-asparaginase from *E. coli* 193
Diaryl-3-cyanoformazans,
Potentiometric, conductimetric, spectrometric, thermogravimetric and magnetic studies of lanthanum complexes with some symmetric 1,5-diaryl-3-cyanoformazans 69
Dioxane,
Thermodynamic and spectroscopic properties of 2-pyrrolidinones. 4. Excess molar volumes of 2-pyrrolidinone + benzyl alcohol, + 1,4-dioxane, + hexamethylphosphortriamide, and *N*-methylbenzenesulphonamide + hexamethylphosphortriamide at 303.15 and 323.15 K 129
Dissociation,
Thermal features, thermochemistry and kinetics of the thermal dissociation of hexachlorostannates of aromatic monoamines 27

*E. coli*,
Microcalorimetric detection of L-asparagine and L-glutamine in solution using L-asparaginase from *E. coli* 193
Edible vegetable oils,
Determination of oxidative stability of edible vegetable oils by pressure differential scanning calorimetry 347
Enthalpies of solution,
Enthalpies of solution of RbCl in water at 298.15 K and low molalities 85
Enthalpy increments,
Enthalpy increments of barium zirconate,

$BaZrO_3$, and an assessment of its thermochemical properties 45
Excess enthalpies,
DARC analysis of binary mixtures. Excess enthalpies of ketone + alkane and ketone + alcohol systems 21
Excess volumes,
Molar excess volumes and partial molar excess volumes of *n*-butylamine with chloroalkanes at different temperatures, 199
Thermodynamic and spectroscopic properties of 2-pyrrolidinones. 4. Excess molar volumes of 2-pyrrolidinone + benzyl alcohol, + 1,4-dioxane, + hexamethylphosphortriamide, and *N*-methylbenzenesulphonamide + hexamethylphosphortriamide at 303.15 and 323.15 K 129

Heat capacities,
Heat capacities and phase transitions of 1,1,1-trihydroxy-methyl propane and pentaerythritol over the superambient temperature range 157
Heat conduction calorimeter,
Linear system theory of a heat conduction calorimeter. Part 2. The inverse filter method in thermokinetics 117
Heat flux,
The effect of heat flux DSC measurements of physico-chemical properties of the sample 259
Heat transfer coefficient,
The influence of sample mass, heating rate and heat transfer coefficient on the form of DSC curves 291
Heating rate,
The influence of sample mass, heating rate and heat transfer coefficient on the form of DSC curves 291
Hexachlorostannates,
Thermal features, thermochemistry and kinetics of the thermal dissociation of hexachlorostannates of aromatic mono-amines 27
Hexamethylphosphortriamide,
Thermodynamic and spectroscopic properties of 2-pyrrolidinones. 4. Excess molar volumes of 2-pyrrolidinone + benzyl alcohol, + 1,4-dioxane, + hexamethylphosphortriamide, and *N*-methylbenzenesulphonamide + hexamethylphosphortriamide at 303.15 and 323.15 K 129
Hydrophobic interactions,
Single ion free energies of some ions and the hydrophobic interactions of $Ph_4AsBPh_4$ and $Ph_4SbBPh_4$ in mixed ethanol–water solvents 91
Hydroxy-1,4-naphthoquinone monoxime,
A study of the chelation behaviour of bivalent metal complexes of biologically active 2-hydroxy-1,4-naphthoquinone monoxime (HNQM) in dioxan–water mixtures 267

Ice,
The use of DSC to study the kinetics of heterogeneous and homogeneous nucleation of ice in aqueous systems 373
Indole-3-ethylene-salicylaldimine,
Thermal studies of Co(II), Ni(II) and Cu(II) complexes with Schiff base derivatives of 1H-indole-3-ethylene-salicylaldimine 231
Inverse filter method,
Linear system theory of a heat conduction calorimeter. Part 2. The inverse filter method in thermokinetics 117
Isomerization,
The kinetics of the thermally induced isomerization of some nickel(II) complexes containing butanediamines in a solid phase 137
Isothermal methods,
Sensitivity of the mechanism determined by isothermal methods to errors in $\alpha$ 101

Kaolin,
Kinetics of the dehydration process of aluminium hydrate formed in the kaolin–aluminium powder system 53
Ketone,
DARC analysis of binary mixtures. Excess enthalpies of ketone + alkane and ketone + alcohol systems 21
Kinetics,
Kinetics of the dehydration process of aluminium hydrate formed in the kaolin–aluminium powder system 53
The kinetics of dehydroxylation and mullitization of zettlitz kaolin in the presence of calcium(II) as an ingredient 61
The kinetics of the thermally induced isomerization of some nickel(II) complexes containing butanediamines in a solid phase 137
The use of DSC to study the kinetics of heterogeneous and homogeneous nucleation of ice in aqueous systems 373
Thermal features, thermochemistry and kinetics of the thermal dissociation of hexachlorostannates of aromatic mono-amines 27

L-asparaginase,
Microcalorimetric detection of L-asparagine and L-glutamine in solution using L-asparaginase from *E. coli* 193

L-asparagine,
Microcalorimetric detection of L-asparagine and L-glutamine in solution using L-asparaginase from *E. coli* 193
L-glutamine,
Microcalorimetric detection of L-asparagine and L-glutamine in solution using L-asparaginase from *E. coli* 193
Lanthanum complexes,
Potentiometric, conductimetric, spectrometric, thermogravimetric and magnetic studies of lanthanum complexes with some symmetric 1,5-diaryl-3-cyanoformazans 69
Lanthanum strontium iron perovskite oxides,
Thermogravimetric reduction of lanthanum strontium iron perovskite oxides with carbon monoxide 179
Linear relationship,
Apparent linear relationship, compensation law and others. Part I 313
Apparent linear relationship, compensation law and others. Part II 321
Linear system theory,
Linear system theory of a heat conduction calorimeter. Part 2. The inverse filter method in thermokinetics 117

Mechanism,
Sensitivity of the mechanism determined by isothermal methods to errors in $\alpha$ 101
Melting,
Determination of some thermodynamic characteristics of melting of 8-alkyltheophyllines by the DSC method 147
Metal complexes,
Thermal studies on cinoxacin complexes. Part II. Thermal behaviour of some metal complexes of cinoxacin 393
Molecular thermodynamics,
Towards molecular-thermodynamic aspects of postulated Pd/D low-temperature nuclear fusion: a useful example of a failure of the conventional translational partition function 285
Mullitization,
The kinetics of dehydroxylation and mullitization of zettlitz kaolin in the presence of calcium(II) as an ingredient 61

Nickel,
Thermal studies of Co(II), Ni(II) and Cu(II) complexes with Schiff base derivatives of 1H-indole-3-ethylene-salicylaldimine 231
Nickel(II) complexes,
The kinetics of the thermally induced isomerization of some nickel(II) complexes containing butanediamines in a solid phase 137
Nuclear fusion,
Towards molecular-thermodynamic aspects of postulated Pd/D low-temperature nuclear fusion: a useful example of a failure of the conventional translational partition function 285
Nucleation,
The use of DSC to study the kinetics of heterogeneous and homogeneous nucleation of ice in aqueous systems 373

Oxidation,
Investigation of the oxidation of skutterudite by thermal analysis 107
Oxidative stability,
Determination of oxidative stability of edible vegetable oils by pressure differential scanning calorimetry 347

Partition function,
Towards molecular-thermodynamic aspects of postulated Pd/D low-temperature nuclear fusion: a useful example of a failure of the conventional translational partition function 285
PbO,
The $PbO_2$–PbO–$V_2O_5$ system in air 211
$PbO_2$,
The $PbO_2$–PbO–$V_2O_5$ system in air 211
Pentaerythritol,
Heat capacities and phase transitions of 1,1,1-trihydroxymethyl propane and pentaerythritol over the superambient temperature range 157
$Ph_4AsBPh_4$,
Single ion free energies of some ions and the hydrophobic interactions of $Ph_4AsBPh_4$ and $Ph_4SbBPh_4$ in mixed ethanol–water solvents 91
$Ph_4SbBPh_4$,
Single ion free energies of some ions and the hydrophobic interactions of $Ph_4AsBPh_4$ and $Ph_4SbBPh_4$ in mixed ethanol–water solvents 91
Phase transitions,
Heat capacities and phase transitions of 1,1,1-trihydroxymethyl propane and pentaerythritol over the superambient temperature range 157

Physico-chemical properties,
The effect of heat flux DSC measurements of physico-chemical properties of the sample 259
Plastic bonded explosives,
Dynamic mechanical and thermal analysis of crystallinity development in Kel-F 800 and TATB/Kel-F 800 plastic bonded explosives. Part I. Kel-F 800 365
Potentiometric studies,
Potentiometric, conductimetric, spectrometric, thermogravimetric and magnetic studies of lanthanum complexes with some symmetric 1,5-diaryl-3-cyanoformazans 69
Pyrrolidinones,
Thermodynamic and spectroscopic properties of 2-pyrrolidinones. 4 excess molar volumes of 2-pyrrolidinone + benzyl alcohol, + 1,4-dioxane, + hexamethylphosphortriamide, and *N*-methylbenzenesulphonamide + hexamethylphosphortriamide at 303.15 and 323.15 K 129

RbCl,
Enthalpies of solution of RbCl in water at 298.15 K and low molalities 85
Reduction,
Thermogravimetric reduction of lanthanum strontium iron perovskite oxides with carbon monoxide 179

Sample mass,
The influence of sample mass, heating rate and heat transfer coefficient on the form of DSC curves 291
Schiff bases,
Thermal studies of Co(II), Ni(II) and Cu(II) complexes with Schiff base derivatives of 1H-indole-3-ethylene-salicylaldimine 231
Sensitivity,
Sensitivity of the mechanism determined by isothermal methods to errors in $\alpha$ 101
Single free energies,
Single ion free energies of some ions and the hydrophobic interactions of $Ph_4AsBPh_4$ and $Ph_4SbBPh_4$ in mixed ethanol–water solvents 91
Skutterudite,
Investigation of the oxidation of skutterudite by thermal analysis 107
Solid phase,
The kinetics of the thermally induced isomerization of some nickel(II) complexes containing butanediamines in a solid phase 137
Solid–liquid equilibria,
Solid–liquid equilibria in *para-/meta-* xylene and *para-/ortho-*xylene binary mixtures at atmospheric pressure 299
Spectrometric studies,
Potentiometric, conductimetric, spectrometric, thermogravimetric and magnetic studies of lanthanum complexes with some symmetric 1,5-diaryl-3-cyanoformazans 69
Spectroscopic properties,
Thermodynamic and spectroscopic properties of 2-pyrrolidinones. 4. Excess molar volumes of 2-pyrrolidinone + benzyl alcohol, + 1,4-dioxane, + hexamethylphosphortriamide, and *N*-methylbenzenesulphonamide + hexamethylphosphortriamide at 303.15 and 325.15 K 129

Thallium,
A thermodynamic evaluation of the Cu–Tl system 383
Thermal behaviour,
Thermal studies on cinoxacin complexes. Part II. Thermal behaviour of some metal complexes of cinoxacin 393
Thermochemical properties,
Enthalpy increments of barium zirconate, $BaZrO_3$, and an assessment of its thermochemical properties 45
Thermochemistry,
Thermal features, thermochemistry and kinetics of the thermal dissociation of hexachlorostannates of aromatic mono-amines 27
Thermodynamic evaluation,
A thermodynamic evaluation of the Cu–Tl system 383
Thermogravimetric analyser,
Direct combination of thermogravimetric analyser and atomic absorption spectrometer for detection of atomic vapour in thermal analysis 11
Thermogravimetric studies,
Potentiometric, conductimetric, spectrometric, thermogravimetric and magnetic studies of lanthanum complexes with some symmetric 1,5-diaryl-3-cyanoformazans 69
Thermokinetics,
Linear system theory of a heat conduction calorimeter. Part 2. The inverse filter method in thermokinetics 117
Thioamide complexes,
Thermochemistry of amide and thioamide complexes of arsenic trihalides 163
Tin compounds,
Thermal decomposition of $(CH_3)_2SnX_2$ (X≡F, $SO_3F$, or $SO_3CF_3$) 239

Trifluoroethanol,
Viscosities and densities of 2,2,2-trifluoroethanol + water at various temperatures 359
Trihydroxymethyl propane,
Heat capacities and phase transitions of 1,1,1-trihydroxymethyl propane and pentaerythritol over the superambient temperature range 157

$V_2O_5$,
The $PbO_2$–PbO–$V_2O_5$ system in air 211
Viscosity,
Viscosities and densities of 2,2,2-trifluoroethanol + water at various temperatures 359

Water,
Enthalpies of solution of RbCl in water at 298.15 K and low molalities 85
Viscosities and densities of 2,2,2-trifluoroethanol + water at various temperatures 359

Xylene,
Solid–liquid equilibria in *para-/meta*-xylene and *para-/ortho*-xylene binary mixtures at atmospheric pressure 299

Zettlitz kaolin,
The kinetics of dehydroxylation and mullitization of zettlitz kaolin in the presence of calcium(II) as an ingredient 61
Zirconium oxide,
A thermogravimetric analyser for corrosive atmospheres and its application to the chlorination of $ZrO_2$–C mixtures 275